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| APPLICATION NO.         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------|-------------|----------------------|---------------------|------------------|
| 10/084,535              | 02/27/2002  | Steven Danyluk       | 63073/106           | 7710             |
| 27433                   | 7590        | 11/19/2003           | EXAMINER            |                  |
| FOLEY & LARDNER         |             |                      | KALAFUT, STEPHEN J  |                  |
| 321 NORTH CLARK STREET  |             |                      |                     |                  |
| SUITE 2800              |             |                      |                     |                  |
| CHICAGO, IL 60610-4764  |             |                      | ART UNIT            | PAPER NUMBER     |
|                         |             |                      | 1745                |                  |
| DATE MAILED: 11/19/2003 |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO 6

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/084,535             | DANYLUK ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Stephen J. Kalafut     | 1745                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____                                     |

Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "highly doped" in claim 4 and "high pressure" in claim 8 are relative terms which render the claims indefinite. The terms "high" and "highly" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by *Uber et al.* (US 6,414,318).

*Uber et al.* disclose devices which include two spaced apart electrodes (155 and 156; 170 and 171; 170 and 182) between which a gas, such as N<sub>2</sub> or argon (a noble gas), is exposed to ionizing radiation, such as by a beta emitter, which results in ions being collected at the two electrodes, depending on their respective charge (column 11, lines 32-53). The electric field generated between the two electrodes may be created by the difference in work function therebetween, when they are made of two different metals in electrical connection (column 11,

lines 14-32). The collection of ions would thus produce an electric current. The electrodes are connected to various microelectronic circuits, as shown in figures 5 through 14A. The gas would be at "high pressure", to the extent that this relative term is understood. Thus, Uber *et al.* disclose all the elements of the present device, which would produce some amount of current as recited by the present method claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uber *et al.*, above.

These claims differ from Uber *et al.* by reciting a plurality of the present devices connected in series. Since the connection of electrical devices in series to produce a higher voltage is well known in the electronic arts, the use of plural devices would be obvious to the ordinary artisan. These claims would thus be obvious over Uber *et al.*

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber *et al.* in view of Mallory *et al.* (US 4,245,174).

This claim differs from Uber *et al.* by reciting americium as a beta emitter. Mallory *et al.* teach the use of Americium as able to ionize air by alpha or beta radiation (column 3, line 60

through column 4, line 2). Because this would provide the ionization desired by Uber *et al.*, it would be obvious to use Americium as disclosed by Mallory *et al.* in the devices of Uber *et al.*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brown (US 6,118,204) discloses a solid state semiconductor device which produces electricity from ionizing radiation. Sasaki (US 4,594,512), Lewiner (US 4,864,141) and Amleshi *et al.* (US 5,633,501) disclose smoke detectors which use gas ionization means.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The term "highly doped semiconductors" of claim 4 is not found in the specification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 703-308-0433. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

STEPHEN J. KALAFUT  
PATRICK J. RYAN  
CIRG

170